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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

My application of:

SCOTT JACOBS;

Serial Number:

10/727,061

Filed

December 2, 2003

For:

IMPROVED MOUTHPIECE

GROUP: 330

Examiner:

Camtu Nguyen

Docket No. 130136

**REPLY BRIEF**

To the Commissioner of Patents and Trademarks:

Sir:

Please enter this Reply Brief in response to the Examiner's Answer mailed April 30, 2007, filed April 6, 2005. Also enclosed is PTO-2038 (02-2003) authorizing the payment of \$250.00 for the Fee under Fee Code 2402.

(1)

**REAL PARTY IN INTEREST**

The real party in interest in this application is Safe-T-Gard Corporation by virtue of an Assignment executed by the above named inventor on November 6, 2003, and filed with the U.S. Patent and Trademark Office for recordation on June 6, 2005.

(2)

**RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences for this application.

(3)

**STATUS OF CLAIMS**

Claims 1-4, 7-10, 13 and 14 have been rejected under 35 U.S.C. § 103(a) as obvious over Frantz et al. (hereinafter Frantz) U.S. Patent No. 5,794,627 in view of Adell (hereinafter Adell) U.S. Patent No. 5,406,963.

Claims 5, 6, 11, and 12 have been rejected under 35 U.S.C. § 103(a) as obvious over Frantz and Adell, further in view of Ueno (hereinafter Ueno) U.S. Patent No. 5,513,984.

Claims 1-14 are the claims on which this appeal is taken.

(4)

#### STATUS OF AMENDMENTS

No amendment to any of Claims 1-14 has been made or proposed since prior to the mailing of the Final Rejection.

(5)

#### SUMMARY OF THE INVENTION

This invention is for an athletic mouthguard having a first, outer portion 11 which is U-shaped and has a tab 21 and a plurality of holes 27, and a second portion 31 made from a gel material that, when molded, extends into holes 27 to lock the two portions together. Portion 11 is an outer tray that conforms to the user's mouth (Specification: page 12, lines 4-12) and portion 31 contains a gel 33 that is soft and functions as a cushion (Specification: page 11, lines 24-25) against impact during use. Gel 33 is made from a material having sufficient softness to protect the user from damage during use in athletic competition (Claim 1 as originally filed).

Applicant has invented a mouthguard that repeatedly cushions the teeth by presenting (1) a gel inner portion that is not formed into an impression of the user's teeth but functions to cushion against impact, and (2) has an outer component that holds the cushioning gel against the teeth because it has been conformed to the user and which has been conformed by heating to the user's mouth for a more precise fit and careful positioning of the cushioning gel. The outer portion offers positioning of the inner portion as it best cushions the teeth.

(6)

#### GROUND OF REJECTION TO BE REVIEWED ON APPEAL

##### FIRST GROUNDS

Claims 1-4, 7-10, 13 and 14 have been rejected under 35 U.S.C. § 103(a) as obvious over Frantz et al. U.S. Patent No. 5,794,627 (Franz) in view of Adell U.S. Patent No. 5,406,963 (Adell).

The basis for the rejection is stated in the Examiner's Answer and can be summarized as an obviousness rejection in which both references specifically teach the use of an impression material which conforms to the user's teeth to make obvious the claimed invention in which the material contacting the user's teeth is not an impression material but rather is a cushioning device.

##### SECOND GROUNDS

Claims 5, 6, 11, and 12 have been rejected under 35 U.S.C. § 103(a) as obvious over Frantz et al. and Adell, further in view of Ueno U.S. Patent No. 5,513,984 (Ueno).

The basis for the rejection is stated in the Examiner's Answer and can be summarized as an obviousness rejection where the material contacting the user's teeth is explicitly stated to be "made of a material which cannot be deformed by subjecting occlusion pressure," as noted in the abstract and elsewhere, and cannot be deformed.

(7)  
ARGUMENT

FIRST GROUNDS ARGUMENT

The issue is whether it is obvious to combine two references, both of which contact the user's teeth with a material that is specifically recited to conform to the user's teeth, to make obvious these claims that requires that the material that contacts the teeth not conform to the teeth but rather acts as a cushion and only the outer, carrier tray conforms. Is it obvious to use material that does not cushion as a suggestion for a material for cushioning during repeated use?

Neither of the cited references, nor any other prior art, alone or in combination, suggests or otherwise makes obvious the use of this combination of two portions in one mouthguard.

In order for a finding of obviousness, according to MPEP § 2142, a proper prima facie case of obviousness can be established only when all three basic criteria are met. These are: (1) some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine the reference teachings; (2) there must be a reasonable expectation of success; and (3) the combination of references must teach or suggest all the claim limitations. These must not be based on applicants' disclosure.

This point cannot be over emphasized. There is no suggestion to modify an impression material with a cushion material. Rather than an inner tray that conforms to the teeth of the user, Applicant recites an inner tray of a gel that cushions the teeth but does not conform upon heating. Frantz has putty that conforms to the patient's teeth but does not cushion. Adell has liner 12 that conforms to the teeth and does not cushion the teeth upon impact. Thus the first criteria is not met.

The second criteria is also not met because an impression material only deforms once when it takes the shape of the teeth and never functions as a cushion, not even when being formed on the teeth. Only Applicant has made a mouthguard that repeatedly cushions the teeth by presenting a gel that is not formed into an impression of the user's

teeth and that has an outer component that (1) holds the cushioning gel against the teeth and (2) itself is conformed by heating to the user's mouth for a more precise fit and careful positioning of the cushioning gel.

The third criteria is clearly not met because it does not teach or suggest the most important claim limitation. One can not combine the references to find features that are not only not present but which are direct opposites to the claimed features.

## SECOND GROUNDS ARGUMENT

The issue is whether it is obvious to substitute a non cushioning material for a non cushioning material to make obvious the use of a cushioning material. The same three criteria set forth in MPEP § 2142 are also not found to be met by this rejection.

The third reference, Ueno, discloses a material set forth in the rejected claims and use of that material in the combination of Franz in view of Adell is obvious. The Examiner has stated that, "Ueno teaches the ball members (3) is made of thermoplastic elastomer (e.g. styrene block copolymer) which offers a softening point of higher than 100 °C, higher than that of the mouthpiece." How can it cushion an elbow to the jaw?

These balls of Ueno, which are hard and do not compress or act as a cushion, are to be substituted in Frantz et al. for the putty, which also does not act as a cushion or the impression material of Adell which also does not act as a cushion. This combination would cause injury to the user of a mouthguard with hard material in contact with the teeth.

In summary, it is respectfully submitted that none of the references have an outer tray, which does not directly contact the user's teeth, that does conform when heated to give a better fit, and none of the references have an inner tray that does not conform to the teeth but instead cushions the teeth on impact. Both claimed elements function directly opposite to those in the cited art. Favorable consideration is earnestly solicited and allowance of the claims is respectfully urged.

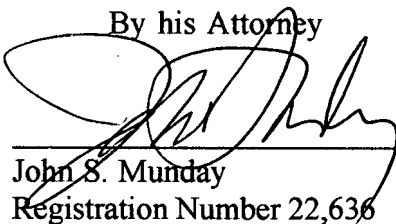
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Respectfully submitted  
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CLAIMS APPENDIX

1. A mouthguard for use by athletes in competition and the like, comprising:  
a first outer portion having a teeth engaging shape made from a material having a freezing point of less than 130°F such that it is capable of conforming to the user's teeth after warming, said first portion being formed into a tray having a generally U-shape, said first portion having a tab extending out from the tray, said tray having a plurality of holes therein;  
a second inner portion formed on said first portion such that part of said second portion extends through said plurality of holes in said first portion to lock the two portions together, said second portion being formed from a gel material having sufficient softness to protect the user from damage during use in said athletic competition by producing a cushioning effect when compressed upon contact on the user during use.
2. The mouthguard of claim 1, wherein said first portion is formed from a thermoplastic material.
3. The mouthguard of claim 2, wherein said thermoplastic material is an ethylene vinyl acetate copolymer.
4. The mouthguard of claim 3, wherein said ethylene vinyl acetate copolymer has a freezing temperature of about 98.6 °F.
5. The mouthguard of claim 4, wherein said second portion is formed from a gel selected from the group consisting of styrene block copolymers and thermoplastic polyurethanes.
6. The mouthguard of claim 4, wherein said gel is a styrene block copolymer.
7. A mouthguard for use by athletes in competition and the like, comprising:  
first outer portion means for engaging teeth and made from a material having a freezing point of less than 130°F such that it is capable of conforming to the user's teeth after warming, said first portion means being formed into a tray having a generally U-shape, said first portion means having a tab extending out from the tray, said tray having a plurality of holes therein;  
second inner portion means for providing a cushion and formed on said first portion means such that part of said second portion means extends through said plurality of holes in said first portion means to lock the two portion means together, said second portion means being formed from a gel material having sufficient softness to protect the user from damage during use in said athletic competition by producing a cushioning effect when compressed upon contact on the user during use.

8. The mouthguard of claim 7, wherein said first portion means is formed from a thermoplastic material.
9. The mouthguard of claim 8, wherein said thermoplastic material is an ethylene vinyl acetate copolymer.
10. The mouthguard of claim 9, wherein said ethylene vinyl acetate copolymer has a freezing temperature of about 98.6 °F.
11. The mouthguard of claim 10, wherein said second portion means is formed from a gel selected from the group consisting of styrene block copolymers and thermoplastic polyurethanes.
12. The mouthguard of claim 11, wherein said gel is a styrene block copolymer.
13. A mouthguard for use by athletes in competition and the like, comprising:
  - a first outer portion formed from a ethylene vinyl acetate copolymer material and having a teeth engaging shape and having a freezing point of less than 130°F such that it is capable of conforming to the user's teeth after warming, said first portion being formed into a tray having a generally U-shape, said first portion having a tab extending out from the tray, said tray having a plurality of holes therein;
  - a second inner portion formed from a block styrene copolymer and mounted on said first portion such that part of said second portion extends through said plurality of holes in said first portion to lock the two portions together, said second portion being formed from a gel material having sufficient softness to protect the user from damage during use in said athletic competition by producing a cushioning effect when compressed upon contact on the user during use.
14. The mouthguard of claim 13, wherein said ethylene vinyl acetate copolymer has a freezing temperature of about 98.6 °F.

(9)

EVIDENCE APPENDIX

NONE

(10)

RELATED PROCEEDINGS APPENDIX

NONE